EPA Review comments - NV/ARC Deferral Documents
July 27, 2017

DOCUMENTS REVIEWED

- "Interim Administrative Settlement Agreement and Order on Consent" (IAOC), Draft dated June 13, 2017 (Between NDEP and ARC)
- "Statement of Work for Site-Wide RI/FS" (RIFS SOW), Draft dated June 12, 2017 (Attachment to IAOC)
- "Statement of Work for RD/RA of CMUs 2, 4, 5, 6, & 7" (OU8 SOW), Draft dated June 12, 2017 (Attachment to IAOC)

Some comments also reference the following related documents

- "Framework for Agreement" (Framework) Final dated June 13, 2017 (Between NDEP and ARC)
- "National Priorities List Deferral Agreement, Anaconda Mine Site" Draft dated June 13, 2017 (Between NDEP and EPA)

GENERAL COMMENTS

A. Remedy Selection

1. Groundwater (OU1): The Framework (Section III.c.vi) (Page 10) appears to pre-select an on property only groundwater remedy with a presumption of monitored natural attenuation off property. Although the Framework states that if there is a conflict between the Framework and the IAOC that the IAOC will control, the RIFS SOW (which the IAOC incorporates by reference) is lacking in detail about OU1 (Groundwater) feasibility study and remedy selection process. Further, by stating that the RI/FS will comply with "*applicable sections of the NCP*" the IAOC (Section VIII.B.57) (Page 25) leaves open to interpretation whether sections of the NCP requiring restoration of groundwater to beneficial use, and requiring attainment of MCLGs in groundwater remedial actions, will be considered *applicable* by NDEP and ARC. Therefore, EPA is concerned that based on the language in the Framework that an OU1 remedy has been pre-selected that may not prove to be CERCLA protective.

2. Pit Lake (OU2): The Framework (Section III.b.vi) (Page 9) appears to pre-select a no-action remedy for the Pit Lake when it states: "Subject to the remedy selection process, applicable water pollution control regulations, and appropriate access restrictions, NDEP will not require reclamation or active management of water in the pit." Although the Framework states this decision is "subject to the remedy selection process," the RIFS SOW (Section 7.6) (Page 15) appears to require no remedy selection process when it states: "a baseline HHRA is not required for OU-2, as risks are limited to the physical." The conclusion that a baseline HHRA is not required for OU2 and that there are no chemical hazards, only physical hazards, suggests a no-action remedy has been pre-selected, which may not prove to be CERCLA protective.

B. CERCLA Protectiveness (Risk Assessment)

1. For a remedy to be CERCLA protective it must address risk consistent with CERCLA and the NCP. To address risk consistent with CERCLA and the NCP, risk must be measured consistent with CERCLA and the NCP. The subject documents include provisions inconsistent with the NCP and EPA guidance with respect to the risk assessment process.

2. While the IAOC (Section VIII.B.57) (Page 25) states the RI/FS shall be completed in accordance with "the applicable sections of the NCP" (the intent of this language is unclear: which sections of the NCP are not applicable?) the RIFS SOW (Sections 6.5 and 7.6) (Page 10 and Page 14) states that the risk assessments "will consider … institutional controls, and groundwater use restrictions." This approach is contrary to the NCP and EPA guidance in which the baseline risk assessment looks at potential, not just actual, exposure. The NCP (300.430(a)(2)(d)(4) states that the baseline risk assessment shall "characterize the current and potential threats to human health and the environment that may be posed by contaminants migrating to ground water." EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (1988) states (Page 3-20): "Baseline risk assessments provide an evaluation of the potential threat to human health and the environment in the absence of any remedial action."

3. Explicitly under the Framework, and by inference from technical conclusions argued in the RIFS SOW, Anaconda process wastes (specifically vat leach tailings aka VLT) may be used as cover material for the OU8 remedy (which NDEP calls the ROD-1 remedy) without adequate characterization and risk assessment being performed on the material. While VLT has been used in past as interim cover material in removal actions at no time did EPA represent or conclude that this cover material would be acceptable for use in final remedial actions. Further, the large quantities of VLT present on the ground surface have not been fully characterized, especially for the extent to which they have impacted groundwater.

4. To make a determination of CERCLA protectiveness on Tribal lands it is necessary that risk assessments under the RI/FS SOW include Tribal exposure scenarios.

C. Tribal Participation

1. Walker River Paiute Tribe: No provision is made for financial or technical assistance to the Walker River Paiute Tribe. In fact, the IAOC states (Section E.72.b.) (Page 32): "Respondent shall not be responsible for payment of any Future Response Costs incurred by the Division in providing technical assistance to … including, without limitation. The Walker River Paiute Tribe…" Given that the Walker River Paiute Tribe's land and cultural resources may be negatively impacted by the Site, provision must be made to fund the Tribe to hire its own staff and/or consultants to participate in Site decision-making, and provision must be made to obtain the Tribe's concurrence on remedies selected (including no action remedies) on Tribal land.

2. Yerington Paiute Tribe: While provision is made for financial or technical assistance to the Yerington Paiute Tribe, it must be made clear that the Tribe may hire its own staff and/or consultants (and have their costs reimbursed or receive up-front funding) to participate in Site decision-making, and provision must be made to obtain the Tribe's concurrence on remedies selected (including no action remedies) on Tribal land. Under IAOC Section E.72.b. (Page 31) it's left unclear whether the Division will provide the Yerington Paiute Tribe with financial assistance (which the Tribe may use to hire its own staff and/or consultants) or direct technical assistance in the form of NDEP staff time.

D. Technical Conclusions

1. OU1 (Groundwater) / Plume Stability: The RIFS SOW (Section 6.1(b)) (Page 7) gives what EPA considers an incomplete list of technical factors that must be considered in performing a technically defensible plume stability analysis. The technical factors listed in Section 6.1(b) include: statistical analysis; and movement or stability of centers of mass. EPA recommends that for a technically defensible plume stability analysis, and for a CERCLA protective remedy, the following methods should be employed:

    a. Qualitative methods including: concentration vs. time plots; concentration vs. distance plots; and concentration isopleth maps.

    b. Statistical methods including: well-by-well trend analysis using Mann-Kendall and linear regression techniques.

    c. Plume-based methods including: plume area; plume mass; plume center of mass; and mass flux.

2. OU2 (Pit Lake): The RIFS SOW (Section 7.6) (Page 15) concludes that there are only safety concerns (steep cliff walls, etc.) with the Pit Lake, no human health concerns. The RI and Baseline HHRA have yet to be performed for OU2, therefore this conclusion is premature.

3. OU6 (Oxide Tailings aka VLT): The RIFS SOW (Section 7.4) (Page 14) concludes a "significant number" of samples have been collected in this OU and that further characterization is unnecessary. EPA disagrees. The number of soil samples collected to date is small in comparison to the vast area covered by this material (placed directly on the land surface) and the volume of material. Further, the extent to which this material has leached and may continue to leach to groundwater must be determined. As the RI has yet to be performed for this OU, the conclusions in the RIFS SOW are premature.

4. OU7 (Wabuska Drain): The RIFS SOW (Section 6.4) (Page 9) concludes that Site-related contamination is limited to areas south of Luzier Lane. As the RI is still in process, this conclusion is premature.

E. Definitions

1. Definitions of "CERCLA Protective" should be standardized in the various deferral documents. The definitions given in the Draft Deferral Agreement and the IAOC differ from one another. One example is that the Draft Deferral Agreement (Section II.D.2) refers to a 10(-6) point of departure for carcinogens whereas the definition in the IAOC (Section III.15.h) (Page 9) does not refer to a point of departure. In making determinations of CERCLA protectiveness, EPA will preferentially use the definition that appears in the final deferral agreement between EPA and NDEP.

2. Definitions of "Site" should be standardized in the various deferral documents. The term "Site" is used in various inconsistent ways, and is particularly confusing when groundwater is being discussed. Specifically, the definition of "Site" in the IAOC (Section III.15.vv) (Page 12) appears to correctly include the phrase "where contaminants have come to be located" yet elsewhere the IAOC and RIFS SOW commonly refer to "On-Site" and "Off-Site" groundwater.

F. Schedule

1. From the RIFS SOW schedule (Section 10.2) (page 19) it appears that the combined FS for OU1, 3, 4a, 4b, 5, 6, and 7 would not be completed until 42 months after the effective date of the IAOC. Therefore, per the Framework, an on-property groundwater remedy would be selected in 2021 at the earliest with an off-property groundwater remedy selected sometime thereafter, or perhaps never. Given that the OU1 Groundwater RI is essentially complete and that the FS process has already begun, there is no technical reason to wait until 2021 to complete the FS process, which has already begun, and select an OU1 remedy prior to 2021.

SPECIFIC COMMENTS

G. Interim Administrative Settlement Agreement and Order on Consent

1. Page 4, paragraphs 2 and 3: Paragraph 2 recites that the Division (NDEP) is exercising its jurisdiction under CERCLA and the Nevada Revised Statutes (NRS). In paragraph 3, Respondent (ARC) consents to jurisdiction only under the NRS. ARC should consent to jurisdiction under each authority exercised by NDEP.

2. Page 5, Section I, paragraph 6: Strike the words "adequate level of" from line 2. The remedy must provide CERCLA protectiveness with no qualification.

3. Page 7, Definition "h." "CERCLA Protective": This language is an inadequate statement of "CERCLA protective." The 10-4 to 10-6 risk range for carcinogens should be stated as the point of departure for determining remediation goals; it is inappropriate to cite to the ARARs waiver section of the NCP in defining protectiveness; "reasonable progress" towards achievement of Performance Standards is not protective; eliminating existing, but not potential, exposure pathways is not protective. This definition should be rewritten to be consistent with the

characterization of "CERCLA protective" in the Draft Deferral Agreement between EPA and NDEP (Draft DA).

4. Page 8, Definition "k.", "Deferral Agreement": Strike the language after "(iii)" The Draft DA contains no limitation on EPA's retained authority to terminate the Deferral Agreement.

5. Page 12, Definition "vv." "Site": The definition of "Site" is adequate, but the term is used inconsistently in this draft IAOC and in the draft RI/FS SOW. For example, in the draft IAOC on page 13, paragraph 16, the Site is described as the "mine and extraction facility." A separate term (e.g. "Property") should be defined for the mine property and the term Site used to encompass the areal extent of contamination.

6. Page 15, paragraph 23: EPA does not necessarily agree with this, or any other, of the Findings of Fact, which tend toward argument or characterization of facts (e.g. "multiple large volume spills and releases.") EPA recommends that NDEP and ARC remove argumentative and conclusory statements from these documents.

7. Page 17, paragraph 34: See immediately previous comment, with reference to "the downgradient extent of mine-impacted groundwater."

8. Page 25, paragraph 57: Sentence beginning with "For each grouping of CMUs identified in the RI/FS SOW…": "Cleanup" or "restoration" should be included in the alternatives to be evaluated for remedial action. The alternatives actually listed imply that restoration is excluded a priori from consideration.

9. Pages 25-26, paragraph 59: This paragraph is confusing and should be rewritten or omitted. To the extent it pre-selects Institutional Controls as remedial action it is pre-decisional and inappropriate. If it purports to characterize the criteria for remedy selection, it is incomplete.

10. Page 26, paragraph 60: NDEP does not require permission to provide copies of deliverables to EPA. While EPA will not retain concurrence or approval authority for deliverables provided by ARC under this IAOC, EPA retains the authority to request, and receive, copies any and all project documents from NDEP at any time during the post-deferral site cleanup.

11. Page 29, paragraphs 67-71: The IAOC describes an approach and factors to be considered by the State in determining whether Groundwater Interim Measures should be required in advance of a final groundwater remedy. If response to off-property groundwater is to be delayed pending completion of remedial action for on-property groundwater, as the Framework Agreement provides, then NDEP must retain the authority to require active groundwater remediation measures in the event the plume threatens to migrate during the indefinite "interim" period to previously uncontaminated areas of the aquifer and endangers communal or Tribal resources.

12. Pages 31-32, paragraph 72(b): The technical assistance provided to the Yerington Paiute Tribe (YPT) must be in the form of cash grants, rather than, as is implied,

services in kind. The YPT must be enabled to retain and compensate outside professionals and its environmental manager. The level of funding for YPT is too restricted for the duration of Work under ROD-1 and should be equal to the level of funding historically provided by EPA. Similarly, funding for the Walker River Paiute Tribe should continue at the historical levels provided by EPA.

13. Page 34, paragraphs 77 and 79: The first sentence of paragraph 77 ("…outside the ROD-1 Boundary…the Division may select further response actions as necessary…") seems inconsistent with the last sentence of paragraph 79 ("…nothing in this Settlement shall obligate Respondent to perform further response actions outside of the ROD-1 Boundary…"). Clarification is necessary.

14. Page 37, paragraph 88: Approval of a deliverable by default is inconsistent with governmental authority and protectiveness. This should be changed to a good-faith commitment by NDEP for timely response or eliminated.

15. Page 53, paragraph 136: The covenant from NDEP should be limited to the "Work," as defined in this document. Extension of the covenant to "the OUs and CMUs addressed by the Remedial Action" is overbroad and potentially misleading, since the ROD-1 Work impinges on multiple OUs/CMUs, wholly or partially, and the spatial extent of each is uncertain.

16. Page 58, paragraph 151: See comment immediately above. Contribution Protection should extend to the "Work," but not to "the OUs and CMUs addressed by the Remedial Action."

H. Statement of Work for Site-Wide RI/FS

1. Page 4, Table 1: This schematic description of OUs (EPA) and CMUs (ARC) illustrates the overbreadth of the covenant and contribution protection contained in paragraphs 136 and 151 of the Draft IAOC and commented on immediately above.

2. Page 6, paragraph 6.1: This paragraph illustrates the inconsistent use of the term "Site" in these documents. In this paragraph, "Site" refers to the mine property while a new term, "Study Area," is used for the areal extent of potential groundwater contamination. Consistency is required for clarity.

3. Page 7, paragraph (b), "Plume Stability Technical Memorandum": The list of technical factors to be considered in the analysis is incomplete. See above (D.1.) under Technical Conclusions.

4. Pages 7-8, "Groundwater Monitoring Optimization Technical Memorandum": The sequence of plans and monitoring protocols should be clarified to confirm that at least one consistent well set will be maintained and monitored throughout all phases of remedy selection and implementation to ensure that comparable data are being evaluated.

5. Page 9, paragraph 6.4 "OU-7 Wabuska Drain": EPA disagrees with the conclusory statements in paragraph 3 of this section. See above (B.6.) under CERCLA Protectiveness (Risk Assessment). Since the RI (and the HHRA) are incomplete, it is inappropriate to conclude that the extent of contamination originating from Site (sic) sources has been determined.

6. Page 10, paragraph 6.5, "Risk Assessments for OU1…": See generally above comments on CERCLA Protectiveness (Risk Assessments). In this paragraph and elsewhere ARC short-circuits the risk assessment process for groundwater by pre-deciding, for example, that current uses and conditions define the universe of considerations for a baseline HHRA. See also pages 14-15 of the RI/FS SOW, "Risk Assessment for OU-2…." and above (D.2.) under Technical Conclusions, noting that statements in the SOW about the Pit Lake not posing human health concerns are premature.

7. Page 20, Schedule, Line Item 25: This date for delivery of the FS Report for CMUs 1 and 3, noted as the priority areas by ARC, is more than 42 months (counting from Effective Date of the Order) in the future. This time frame can and should be compressed.

I. Statement of Work for RD/RA of CMUs 2, 4, 5, 6, & 7

1. Section 1.2, 2nd bullet: The sentence refers to the remedial design and remedial action work as being "contemplated" under this SOW. EPA recommends using the word "required" instead of "contemplated."

2. Section 1.3: The sentence states that the scope of the remedy includes the following activities which will be implemented "in general consistency with" the ROD. EPA recommends using the phrase "in compliance with" the ROD.

3. Section 1.3: In part (a), the last sentence states that the ponds will be sized to accommodate no more than one acre of active evaporative surface area per two gallons per minute of drain-down fluid. In subpart (b), the 7th sentence states the same thing. These are design parameters. EPA recommends not embedding design parameters into the RD/RA IAOC SOW. Design parameters are more appropriate for inclusion in the RD Workplan.

4. Section 1.3, part (b): The fourth sentence includes among the work elements the closure of TENORM and other low-level radioactive materials. EPA notes that the OU-8 ROD does not include such an element, and committing to such an action via this IAOC SOW could be considered pre-decisional. TENORM material closure is also mentioned in Section 5.1, part (c). In addition, the last sentence states that adjoining portions of OUs 3, 4, 5 and 6 will be closed along with the HLP closures to the extent that efficiencies can be gained by including such areas. Whereas it could be considered acceptable pursuant to the CERCLA process to include such areas in the OU-8 closure to the extent that the areas are needed to accommodate the OU-8 remedy design, the OU-8 ROD does not otherwise select the remedy for those areas. This is also mentioned in Section 5.1, part (a).

5. Section 2.1, 1st sentence: The sentence states that NDEP has the lead responsibility for providing technical assistance to the Yerington Paiute Tribe. EPA notes that the Walker River Paiute Tribe also would need continued funding for technical assistance.

6. Section 2.1, 4th sentence: The sentence states that ARC's support "may" include providing online access to submissions and deliverables. EPA recommends using the word "shall" instead of "may."

7. Sections 4 and 5: Section 4.2 part (f) as well as Section 5.2 part (g) both include an Institutional Controls Implementation and Assurance Plan. EPA suggests that you could combine them and just have one ICIAP for OU-8.

8. Section 8.4, part (d), 2nd sentence: EPA recommends the following edit in order to further clarify the intent of the sentence, ". . . to an appropriate NDEP approved QAPP for other sampling and analysis work at the Site that is applicable to the subject sampling."

9. Section 8.4, part (e): Each of the subparts includes a specification for the type of measurements that will be used for the respective performance standards. EPA recommends providing such specifications in the RD Workplan rather than within this IAOC SOW.

10. Section 8.4, parts (f) and (h): It is unclear whether cap erosion would be monitored under the RA Monitoring Plan or under the O&M Plan. Specify which plan would include cap erosion monitoring.

11. Section 8.4, part (i): Add the following two subparts to the list of requirements to be included in the ICIAP: "(3) Description of the institutional controls required by the ROD, including mechanisms, objectives, locations to be included, and agencies or parties involved in implementation; (4) Plan and schedule for implementing institutional controls, including required administrative or legal processes."